**Radiofrequency Thermal Wire: A Useful Adjunct To Treat Chronic Central Venous Occlusions**

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**Introduction and objectives:** Chronically occluded central veins may result in severe morbidity. Conventional catheter/guidewire techniques may be successful in crossing and recanalizing most patients, but still fail in many. We recently utilized a radiofrequency (RF) wire to assist in crossing difficult central venous occlusions.

**Methods:** Between May 2008 and May 2010, 22 patients with symptomatic occlusion or stenosis of the superior vena cava (SVC), innominate, or subclavian veins were treated at our institution. In four patients with occlusion, the lesion could not be crossed using conventional techniques. All of these patients had multiple central venous access procedures. Two pa|tients presented with persistent arm swelling in an extremity with an arteriovenous fistula. The other two presented with symptoms of SVC syndrome, one of which had underlying Sjögren syndrome, hypercoagulability, and a failed atrial-innominate bypass. These "endovascular failures" were subsequently approached with an RF generator and Powerwire (Baylis Medical, Montreal, QC, Canada) using a 0.035-inch guidewire with a heated tip allowing for enhanced passage through tissue.

**Results:** Four patients with resistant occlusions were successfully recanalized. Total occlusions of both the innominate veins and the SVC were successfully traversed using the RF wire under fluoroscopic guidance, followed by angioplasty and stenting with covered and bare-metal stents. The average length of vein recanalized was 7.9 ± 3.0 cm, with a mean fluoroscopy time of 36.7 ± 8.6 minutes. All patients had rapid resolution of symptoms. One patient required repeat angioplasty at 4 months for in-stent intimal hyperplasia. However, all stents have remained patent at 3 to 12 months.

**Conclusions:** The RF wire proved to be a valuable tool in the management of patients with refractory chronic central venous occlusions, crossing lesions that had failed conventional techniques. However, caution is urged because extraluminal passage is possible, making high-resolution multiplanar or 3D spin-imaging technology important.

**Do Relative Value Units (RVUs) Accurately Reflect the Work Done by Vascular Surgeons?**

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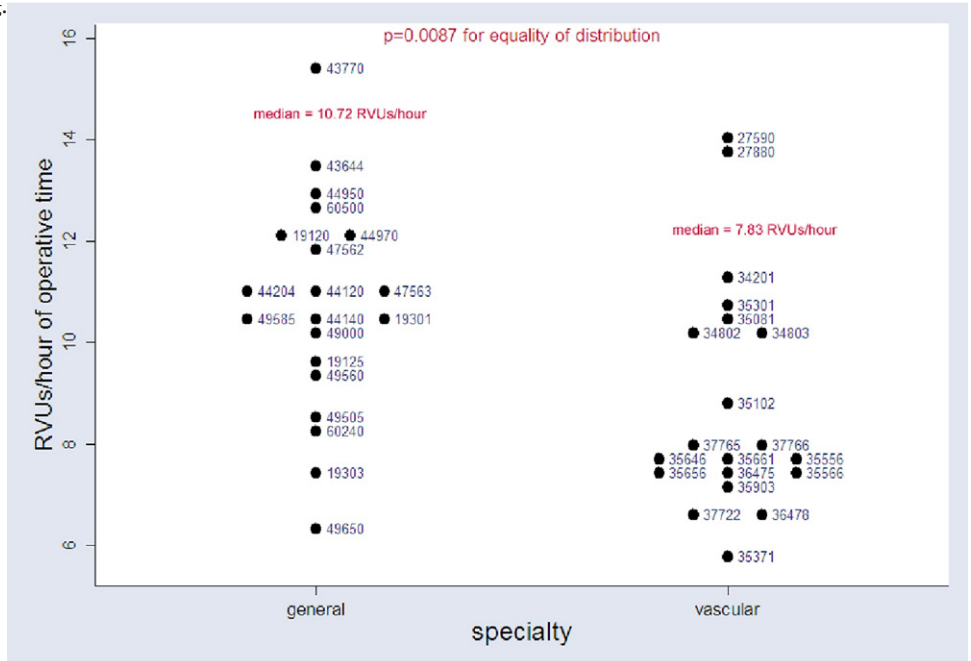
**Introduction and objectives:** Work RVUs are intended to reflect the "time, skill, training, and intensity" of surgeons performing operations. It is not clear, however, how well work RVUs truly represent such efforts.

**Methods:** Data regarding the performance of operative procedures, including operative time and associated postoperative length of stay, were obtained from the 2002-2008 NSQIP database. Correlations were made with work RVUs obtained from the CMS 2009 National Physician Fee Schedule Relative Value File.

**Results:** Among the 199 vascular surgery CPTs reviewed (representing 78,397 operations), there was a moderate correlation between work RVUs and both median operative time ($R^2 = 0.3962$, $P < .001$) and median postoperative length of stay ($R^2 = 0.2353$, $P < .001$). Per unit time, work RVUs for major amputation were nearly twice that of infrainguinal revascularizations. A multivariate regression model identified "high outliers" (procedures with high RVUs per unit of operative time, which included TEVAR and open thoracoabdominal aneurysm repair) and "low outliers" (low RVUs per unit of operative time, which included reoperative femorotibial bypass). A comparison of the 20 most frequently performed general surgery procedures (55% of total general surgery operations) and the 20 most frequently performed vascular surgery procedures (66% of all vascular operations) demonstrated that the rate of RVUs generated per median operative time were significantly higher for general surgery operations than for vascular surgery operations ($P = .0087$; see Fig).

**Conclusions:** Work RVUs are moderately well correlated with operative time and postoperative hospitalization, but work RVUs per unit time for the most frequently performed vascular surgery operations are lower than for the most frequently performed general surgery operations. Periodic review and adjustment of RVUs should be considered to more accurately reflect the efforts of vascular surgeons.

**Fig.**




**Outcomes of Asymptomatic Screening for Deep Venous Thrombosis in Neurosurgical Patients**

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**Introduction and objectives:** Decisions regarding deep venous thrombosis (DVT) prophylaxis are difficult in neurosurgical patients because of bleeding risks. Asymptomatic screening protocols with venous duplex ultrasound (VDUS) imaging may improve outcomes but strain resources. Because there are little data to guide VDUS surveillance, we investigated a comprehensive VDUS screening program in neurosurgical patients.

**Methods:** Medical records of patients admitted to the neurosurgical service at a university-affiliated hospital from October 2007 through January 2010 were retrospectively reviewed. Demographics, comorbidities, interventions, and use of DVT prophylaxis were recorded. Asymptomatic patients underwent weekly VDUS of the lower extremities until ambulatory or discharged. When DVT was identified, VDUS reported its location and progression.

**Results:** A total of 174 consecutive patients were screened according to the established protocol. They had 312 VDUS studies, 68 (21.8%) of which were positive in 40 (23%) unique patients; 10 were bilateral, and 2 were catheter-related. There were no pulmonary emboli. Seventeen (37.7%) were